מכון ויצמן למדע
WEIZMANN INSTITUTE OF SCIENCE

Faculty of Mathematics and Computer Science
The Weizmann Institute of Science

Distinguished Lecturer Series

Sponsored by the Arthur and Rochelle Belfer
Institute of Mathematics and Computer Science

Professor Haim Brezis

University Pierre et Marie Curie
Rutgers University
Technion

will speak on

Can you hear the degree of a map from the circle into itself? An intriguing story which is not yet finished

Abstract

A few years ago - following a suggestion by I.M. Gelfand - I discovered an intriguing connection between the topological degree of a map from the circle into itself and its Fourier coefficients. This relation is easily justified when the map is smooth. However, the situation turns out to be much more delicate if one assumes only continuity, or even Holder continuity. I will present recent developments and open problems. I will also discuss new estimates for the degree leading to unusual characterizations of Sobolev spaces.

*The lecture will take place in the Lecture Hall, Room 1, Ziskind Building
on Tuesday, January 23, 2007
at 11:00*